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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/561,972 | 05/24/2006 | Klaus Herbert Gunter Wenger | 283080US2PCT | 1641 |
| 22850 | 7590 | 07/16/2008 | | |
| OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER DZIERZYNSKI, EVAN P | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2875 | |
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| | | | 07/16/2008 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/561,972

Applicant(s)

WENGER, KLAUS HERBERT
GUNTER

Examiner

EVAN DZIERZYNSKI

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 19 is objected to because of the following informalities: Claim 19 is inconsistent with what is shown in the drawings. The bases of the adjacent pyramidal bases are not turned 180 degrees relative to one another in all instances (i.e. horizontally, both figures, and vertically Fig 1). Appropriate correction is required.

Claim Rejections - 35 USC § 102

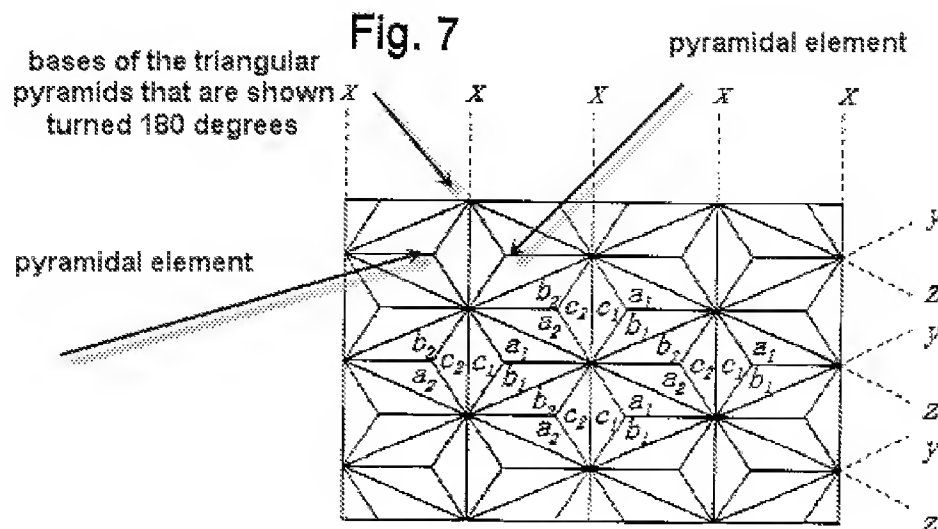
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-21, 24, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Mimura et al. US 2002/0051292.

As for claim 19, Mimura discloses optically refractive pyramidal elements (paragraph 0009), each having a triangular base (Fig 7), such that the bases of adjacent elements are turned 180 degrees relative to each other (as indicated below), the pyramidal elements have respective apex angles configured to provide a desired optical refraction (paragraph 0009, Fig 7).



As for claim 20, Mimura shows that the bases are divided into adjacent rows (Fig 7, vertically, from left to right), with the bases of the elements of adjacent rows being turned through 180 degrees relative to each other.

As for claim 21, Mimura shows that the pyramidal elements have identical dimensions (Fig 7).

As for claim 24, Mimura discloses that the pyramidal elements have a height configured to provide a desired optical refractive pattern (Fig 7).

As for claim 31, Mimura shows that the respective apex angles of elements are configured to provide a desired light distribution (Fig 7).

As for claim 32, Mimura discloses that the optically refractive foil is used for imparting a desired refraction pattern to visible light (paragraph 0003).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura et al. US 2002/0051292

As for claims 22, 25, 26, and 27, Mimura discloses the device as discussed above, but fails to specifically teach or disclose that a dimension of sides of the bases of the pyramidal elements ranges from 1-200 micrometers, that the apex angle of the device is between 30-80 degrees, that the apex angle is around 60 degrees, and fails to teach or disclose that the height of the pyramidal elements lies around 7.5 micrometers. It would have been obvious to make the triangular pyramids within the ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only ordinary skill in the art. *In re Aller*, 105 USPQ 233.

As for claim 28, Mimura discloses a light source (paragraph 0007) irradiating the foil. As for the distance between the foil and the light source being variable, it would have been obvious to move the sheet closer/further from the light source as desired since it has been held that rearranging parts of a prior art structure involves only routine skill in the art. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

As for claim 29, Mimura discloses that the bases of the pyramidal elements may be directed towards the light source (paragraph 0007, Fig 7).

As for claim 30, Mimura shows that the respective heights of the pyramidal elements are configured to provide a desired light distribution (Fig 7).

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura in view of Stamm US PAT 3712706.

As for claim 23, Mimura discloses the device as discussed above, but fails to teach or disclose that the triangular base is equilateral. Stamm teaches the use of equilateral triangles in a similar device (Fig 1). It would have been obvious for one of ordinary skill in the art to use equilateral triangular prisms, as disclosed by Stamm in the device of Mimura to provide greater angular divergence by diffraction of a retroreflected beam (col 3, ln 5-15). One would have been motivated to make this combination to provide an improved retroreflector that would be amenable to manufacture by mass production techniques (col 1, ln 40+).

Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura in view of Lin et al. 2002/0149853.

As for claims 33 and 35, Mimura discloses the device as discussed above, but fails to teach or disclose that the foil is provided with a display screen and is affixed to the display screen. Lin et al. teaches a lighting device with a film that is affixed to a display screen (paragraph 0004). It would have been obvious to provide a display screen such as the LCD screen of Lin with device of Mimura. The examiner takes Official notice that the LCDs are old and well known in the art for their image displaying capabilities. One would have been motivated to make this combination to provide a means to display an image. *KSR International Co. v. Teleflex Inc.*, 550 U.S. -, 82 USPQ2d 1385 (2007).

Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura in view of Wesley US PAT 4458672.

As for claims 34 and 36, Mimura discloses the device as discussed above, but fails to teach or disclose that the foil is provided with a solar system and is affixed to solar panels and or solar cells. Wesley teaches a solar system and an optical foil that is affixed to the solar panel (col 4, ln 28+). It would have been obvious for one of ordinary skill in the art to combine the solar system of Wesley with the lighting device of Mimura to provide a solar collector that can efficiently collect solar radiation (Wesley col 1, ln 20+) with the device of Mimura. One would have been motivated to make this combination to give the device of Mimura more utility.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nilsen et al. US PAT 6036322, Gappelberg US 2004/0174710, Lengyel US PAT 5579134, Jones US PAT 3829680, and Auerswald et al. US PAT 5946135 disclose retroreflective structures with pyramidal shapes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EVAN DZIERZYNSKI whose telephone number is (571)272-2336. The examiner can normally be reached on Monday through Friday 8:00 am -4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached on M-F (571)-272-2378. The fax phone

Art Unit: 2875

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sandra L. O'Shea/
Supervisory Patent Examiner, Art
Unit 2875

/E. D./
Examiner, Art Unit 2875